BEFORE THE

FEDERAL COMMUNICATION COMMISSION WASHINGTON, D.C. 20554

| In the Matter of |) | |
|---|---|----------------------|
| |) | |
| Innovation in the Broadcast Television Bands: |) | |
| Allocations, Channel Sharing and Improvements |) | ET Docket No. 10-235 |
| to VHF |) | |
| | | |

To: The Commission

COMMENTS

Khanna & Guill, Inc. - Consulting Engineers, hereby submits its comments in response to the Notice of Proposed Rulemaking ("NPRM") in the above referenced proceeding concerning the Commission's proposals to repurpose up to 120 megahertz of spectrum from the broadcast television bands for new wireless broadband services and provide improvements to VHF television service.

The principals of the firm of Khanna & Guill, Inc. have been providing consulting engineering services to the radio-television broadcast industry for more than 38 years.

These comments are made particularly with regard to the technical aspects of the proposals listed in the NPRM.

Broadcast Television Channel Sharing

The National Broadband Plan envisions re-purposing of up to 120 MHz spectrum (20 TV channels) from the broadcast television bands for new wireless services. It is reasonable to

assume that wireless services would prefer contiguous higher portion of the UHF band rather than VHF television spectrum since it is closer to the current 700 MHz band used for such services. Many television stations also prefer the UHF band due to potential of providing mobile TV services.

At present there are 37 TV channels available for television broadcasting in the UHF band. If 20 TV channels are reclaimed by the Commission for wireless services that would leave only 17 TV channels for UHF television broadcasting. It appears 17 UHF television channels may not be sufficient to share between currently licensed TV stations, Class A TV and low power TV stations, particularly those stations located in the Zone 1 area. For example, in the New York City area, there are currently 10 TV stations, 4 Class A TV and 9 low power TV stations operate in the UHF band. In addition, in New York, TV channels 14, 15 and 16 are allotted for Land Mobile stations. Similarly, in the Philadelphia, Pennsylvania area there are 11 TV stations, 3 Class A TV and 7 low power TV stations located in the UHF band. In the Baltimore, Maryland area there 5 TV stations and 4 low power TV stations operate in the UHF TV band. In the Washington, DC area there are 10 TV stations, 4 Class A TV and 2 low power TV stations operate in the UHF band. Philadelphia is located approximately 133 km from New York and approximately 143 km from Baltimore. Washington DC is located approximately 56 km from Baltimore, Maryland.

According to Section 73.623(d) of the Commission's rules a minimum of 196.3 km separation is required for new co-channel DTV allotments. This rule implies that less than 196.3 km separation has a potential for causing interference to TV stations that operate on co-channels.

There are additional restrictions on the use of adjacent channels. TV stations cannot operate on adjacent channels in a market unless their transmitter sites are located close to each other and they operate with similar ERP, antenna heights and pattern circularity.

Due to the proximity of New York/ Philadelphia/Baltimore/Washington DC to each other, there may not be sufficient spectrum available to accommodate the current TV stations, Class A TV and low power TV stations that operate in the UHF band with channel sharing. There may be other communities, especially within the Zone 1 area, where 17 UHF channels may not sufficient to permit all TV operations to share. Therefore we believe only limited UHF spectrum for wireless services should be reclaimed after ensuring that all current UHF TV stations in the UHF band continue to operate with or without sharing a channel.

Under the Community Broadcasters Protection Act of 1999, the US Congress has directed the Commission to establish 175 additional channels for new TV stations. The scarcity of spectrum may preclude additional new TV stations on UHF channels, particularly within the Zone 1 area.

The Commission should be aware that sharing of TV channels would require re-tuning or possibly re-design of TV receivers. This can further result in confusion for the general public who are using a convertor box and have gone through re-tuning of their analog TV receivers in 2009.

Consideration of Service Losses

We recommend the Commission to continue its current policy of evaluating any public service losses and gains on a case-by-case basis when determining whether to permit channel

sharing. Since there would be several factors involved, e.g., first or second television service, first network service, any gain and loss of area etc., a strict review standard may not be feasible. Reviewing of proposals on case-by-case basis would allow the Commission to evaluate all possible factors in the public interest.

Improving Reception of VHF TV Service

We support the Commission's proposal to increase the maximum allowed effective radiated power (ERP) for VHF stations located in Zone 1. Some of our clients have informed us about the difficulty of replicating the analog TV service with the digital television operation particularly on low VHF bands. TV stations on low VHF bands are having problem providing digital TV service in some areas where less than perfect (e.g. weak/noisy) picture was available through analog TV broadcasting. Additional power would help mitigate impulse noise and poor receive antenna gain factor and help improve service in the VHF bands.

We urge the Commission to consider also an increase in the maximum ERP for Class A TV and low power TV stations located in the Zone 1 area.

We also support the Commission's proposal to set the minimum gain standards for receive antennas. Currently many receive antennas are sold based on claims of certain range of service from the transmitter site rather than actual gain of the antenna in the major lobe.

Requirement of minimum standard would result in a uniform standard by which general public would be able to compare different antennas. Such requirement may also stimulate the design and development of better antennas.

KHANNA & GUILL, Inc. - Consulting Engineers

Respectfully submitted,

Khanna & Guill, Inc.

S. K. Khanna, P.E. Robert W. Guill

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March 17, 2011

TV, CLASS A TV AND LOW POWER TV STATIONS OPERATING ON UHF CHANNELS WITHIN APPROXIMATELY 50 KM FROM THE CENTER OF EACH COMMUNITY March 2011

NEW YORK, NEW YORK

| WLIG-LD 20080221 mi 275.1 | ABE | _ | 74513 | | | | m | | BLDTL- km 27.24 |
|---------------------------------|-------------|-----------|-----------------|------------------|-------------|----------------|----|---------|-----------------------------|
| WEBR-CD | 17 67866 | | LIC 0.315 kW | MANHATTAN 0.m | N 0.77] | NY km 0.48 | | | -20090831ACL K LICENSEE, |
| INC. | | | | | | | | | |
| WMBC-TV | 18 43952 | DT | LIC 1000 kW | | | NJ km 13.35 | | | -20060803AMO MOUNTAIN |
| BROADCAST | | | | 2001 | 22,17 | 10.00 | | 333.72 | |
| WLIW | 21 | DT | LIC | GARDEN C | ITY | NY | US | BLEDT- | -20090612AEP |
| - | 38336 | | 89.9 kW | 111. m | 45.92 | km 28.53 | mi | 84.68° | WNET.ORG |
| WDVB-LD | | LD | LIC | | 0 55 | | | | -20110113ABM |
| VISWANATH | 168834 I | <u> </u> | 7. KW | 0. m | 0.77 | km 0.48 | mı | 118.64 | DEEPAK |
| WNYE-TV | 24 | DT | LIC | NEW YORK | | NY | US | BLEDT- | -20071228ABM |
| _ | 6048 | | 151. kw | 309.7 m | | | mi | 51.96° | NEW YORK CITY |
| DEPT. OF | INFO TE | ECHNOLOGY | & TELECO | MMUNICATIO | ONS | | | | |
| WASA-LD | 25 | LD | LIC | PORT JERV | /IS | NY | US | BLDTL- | -20091222AQB |
| <u>-</u> | 167320 |) | 15. kW | 0. m | 0.80 | km 0.50 | mi | 51.96° | KRCA LICENSE |
| LLC | | | | | | | | | |
| WLNY-CD | | LD | | MINEOLA | | | | | -20071217ACU |
| - | | | 1. kW | 0. m | 35.11 | km 21.82 | mi | 96.30° | WLNY LIMITED |
| PARTNERSH | IIP | | | | | | | | |
| W26DC | | TX | LIC | | _ | | | | -20080522ABK |
| INC. | 49882 | | 13.7 kW | 0. m | 45.92 | km 28.53 | mi | 84.680 | K LICENSEE, |
| INC. | | | | | | | | | |
| | 26 | LD | - | NEW YORK | | | | | -20091123AAX |
| - BOGNER | 38945 | | 0.6 kW | 0. m | 4.27 | km 2.66 | mi | 96.64 | RICHARD D. |
| | | | | | | | | | |
| WFME-TV | 29 | DT | LIC | WEST MILE | FORD | NJ | | | -20040712ACP |
| | 20818 | | | 167. m | 22.42 | km 13.93 | mí | 280.59° | F'AMILY |
| STATIONS | | | | | | | | | |
| WFUT-DT | 30 | DT | LIC | | | | US | BLCDT- | -20090618ABZ |
| - WODE T 7 G | 60555 | | 200. kw | 429. m | 0.77 | km 0.48 | mi | 118.64° | UNIVISION NEW |
| YORK LLC | | | | | _ | | | | |

| WFUT-DT - YORK LLC | 30 60555 | DX | LIC 80. | kW | NEWARK 309. m | 0.80 | km | NJ 0.50 | US mi | BXLCDT-20101222AAI 51.96° UNIVISION NEW |
|----------------------------|-----------------------------|-----------------|-----------------------|----|-----------------------------|-----------|------|-------------|----------|--|
| W32DF - ADVENTIST | 32 + 155 COMMUN | TX IITY HEAL | LIC 3.3 TH SERV | kW | HEMPSTEAD 0. m OF GTR. NY | 37.77 | km | NY 23.47 | US mi | BLTTL-20090522AEX 88.73° 7THDAY |
| WXNY-LD - BROADCASTI | | | LIC 7.5 | kW | NEW YORK 0. m | 4.27 | km | NY 2.66 | US mi | BLDTL-20090908ACO 96.64° ISLAND |
| WCBS-TV - BROADCASTI | _ 33 3610 | DT | LIC 284. | kW | NEW YORK 397. m | 0.77 | km | NY 0.48 | US mi | BLCDT-20090612AFN 118.64° CBS |
| | _ 34 _14311 | LD | LIC 3.5 | kW | EAST ORANG | E 0.77 | km | NJ 0.48 | US mi | BLDTL-20090511AYH 118.64° AMERICA-CV |
| WNYX-LD - BROADCASTI | 29236 | | LIC 10. | kW | NEW YORK 0. m | 4.27 | km | NY 2.66 | US mi | BLDTL-20090908ACQ 96.64° ISLAND |
| WNJU - LICENSE, I | 36 _ <u>73333</u> LLC | DT | LIC 650. | kW | LINDEN 223.4 m | 22.04 | km | NJ 13.70 | US mi | BLCDT-20080514ADL 284.89° NBC TELEMUNDO |
| WPXU-LP | 38 Z 2129 | TX | LIC 12.6 | kW | AMITYVILLE 0. m | 31.21 | km | NY 19.39 | US mi | BLTTL-19960422KA 91.07° ION MEDIA |
| LPTV, INC. | _ 39 - _16389 | TX | | | | | | | | BLTTL-20041221ABN 233.79° DEEPAK |
| WNYN-LD LICENSE LI | 74305 | | | | | | | | | BLDTL-20090619AAO 96.64° TVC NY |
| | 40 74215 | DT | LIC 300. | kW | PATERSON 421. m | 0.77 | km | NJ 0.48 | US mi | BLCDT-20050214AGS 118.64° WXTV LICENSE |
| W41DO-D - TELEVISION | 60554 | | LIC 3.25 | | NEW YORK 0. m | 2.44 | km | | | BLDTL-20110224ACL 62.91° VENTANA |
| WNXY-LD - BROADCASTI | _ 43 _29233 ING COM | | _ | | NEW YORK 0. m | 4.27 | km | | | BLDTL-20100901AAD 96.64° ISLAND |
| WNYW | | | | | NEW YORK 367. m | 0 77 | km | | | BLCDT-19990826KF 118.64° FOX |
| TELEVISION | _ | | | VM | 30/. III | 0.77 | VIII | 0.40 | шТ | TIO. O4 FOA |

| WLNY-CD - PARTNERSH | 45 <u>73207</u> IP | DC | LIC 15. | kW | MINEOLA 0. m | 2.23 | km | NY US 1.39 mi | BLDTA-20100803AAC 88.40° WLNY LIMITED |
|---------------------------|--------------------------|--------|------------|----|--------------|-------|----|------------------|--|
| WMBQ-CA | 46 | CA | LIC | | NEW YORK | | | NY US | BLTTA-20090709AIR |
| _ | 14322 | | 59.3 | kW | 0. m | 2.25 | km | 1.40 mi | 88.42° RENARD |
| COMMUNICA | TIONS C | ORP. | | | | | | | |
| | | | | | | | | | |
| WNJN | 51 | DT | LIC | | MONTCLAIR | | | NJ US | BLEDT-20061121ADG |
| _ | 48477 | | 200. | kW | 233. m | 21.49 | km | 13.35 mi | 305.92° NEW JERSEY |
| PUBLIC BR | OADCAST | ING AU | THORITY | | | | | | |

PHILADELPHIA, PENNSYLVANIA

| WTSD-CA 200412062 mi 326.24 | 4° PRIO | ORITY | COMMUNIC | CAT | IONS MIN | ISTRIES | , IN | iC. | | | | |
|-----------------------------------|---------|---------|------------|------|-----------|---------|------|-------|----|---------|----------|-------|
| WPHL-TV | _ 17 | DT | LIC | | PHILADELE | PHIA | | PA | US | BLCDT- | -2009091 | 8ABV |
| _ | 73879 | | 645. | kW | 324. m | 12.50 | km | 7.77 | mi | 325.16° | TRIBUNE | |
| TELEVISION | N COMPA | NY, DE | BTOR-IN-I | POSS | SESSION | | | | | | | |
| | | | | | | | | | | | | |
| WNJS | _ 22 | DT | LIC | | CAMDEN | | | NJ | US | BLEDT- | -2007061 | 1AAY |
| | | | | kW | 264. m | 36.28 | km | 22.54 | mi | 132.67° | NEW JER | SEY |
| PUBLIC BRO | DADCAST | 'ING AU | THORITY | | | | | | | | | |
| | 0.5 | | | | | | | | | | 0000111 | |
| WTVE | 25 | DT | LIC | _ | READING | | _ | PA | US | BLCDT- | -2008111 | '/ADZ |
| | | | 126. | kW | 378.4 m | 12.35 | km | 7.67 | mi | 326.03° | WTVE LI | CENSE |
| COMPANY, 1 | LLC | | | | | | | | | | | |
| | | | | | | | | | | | | |
| WGTW-TV | 2./ | DT | LIC | | BURLINGTO | ON | | NJ | US | BLCDT. | -2006010 | 5AAR |
| | | | | | | 12.34 | km | 7.67 | mi | 326.24 | TCCSA, | INC., |
| D/B/A TRI | NITY BR | OADCAS | STING NETV | VOR | ζ | | | | | | | |
| | | | | | | | | | | | | |
| WFPA-CA | 28 | CA | LIC | _ | PHILADELE | PHIA | _ | PA | US | BLTTL- | -2000042 | 8ABK |
| | 74216 | | 10.9 | kW | 0. m | 12.13 | km | 7.54 | mi | 325.32° | WXTV LI | CENSE |
| PARTNERSH: | IP, G.P | • | | | | | | | | | | |
| | | | | | | | | | | | | |
| WUVP-DT - | 29 | DT | LIC | | VINELAND | | | NJ | US | BLCDT- | -2009092 | 3ADS |
| | 60560 | | 335. | kW | 398. m | 12.34 | km | 7.67 | mi | 326.24° | UNIVISI | ON |
| PHILADELPI | HIA LLC | | | | | | | | | | | |
| | | | | | | | | | | | | |
| WELL-LD | _ 30 | LD | LIC | | PHILADELE | PHIA | | PA | US | BLDTL. | -2010020 | 8AAC |
| - | | | | kW | 0. m | 12.10 | km | 7.52 | mi | 325.06° | WORD OF | GOD |
| FELLOWSHI | P, INC. | | | | | | | | | | | |
| | | | | | | | | | | | | |
| WPPX-TV | 31 | DT | LIC | | WILMINGTO | ON | | DE | US | BLCDT- | -2003120 | 3AFL |
| | 51984 | | 200. | kW | 374. m | 12.34 | km | 7.67 | mi | 326.24° | ION MED | IA |
| PHILADELPI | HIA LIC | ENSE, | INC. | | | | | | | | | |
| | | | | | | | | | | | | |
| WPSG | 32 | DT | LIC | | PHILADELE | PHIA | | PA | US | BLCDT- | -2002102 | 5AAS |
| | | | | kW | 400. m | 12.34 | km | 7.67 | mi | 326.24° | PHILADE | LPHIA |
| TELEVISIO | N STATI | ON WPS | G, INC. | | | | | | | | | |

| WZPA-LP | _ 33 Z | TX | LIC 150. kW | PHILADELE | PHIA | | PA | US | BLTTL- | -20070223AGT |
|----------------|--------------|---------------|----------------|--------------|-------------|-------|---------|----------|-------------------|---------------------------------------|
| - COMMUNICA | 72536 | T T C | 150. kW | 0. m | 12.33 | km | 7.66 | mi | 326.16° | MAKO |
| COMMUNICA | .IIONS, | ГГС | | | | | | | | |
| WYBE | 34 | DT | LIC | PHILADELE | PHIA | | PA | US | BLEDT- | -20030213AAD |
| _ | 28480 | | 500. kW | 343. m | 12.34 | km | 7.67 | mi | 326.24° | INDEPENDENCE |
| PUBLIC ME | DIA OF | PHILA | ADELPHIA, INC. | | | | | | | |
| M36D0-D | 36 | τD | T TC | DYDDA | | | D 7 | TTC | . זיירו זם | - 20081125A.TT |
| — — | | טנו | LIC 3.8 kW | 0. m | 12.33 | km | 7.66 | mi | 326.16° | MAKO |
| COMMUNICA | | | | | | | | | | |
| | | | | | | | | | | |
| WPHA-CD | 38 | DC | LIC 3. kW | PHILADELE | PHIA | 1 | PA | US | BLDTA- | -20101118AIV |
| - | 12218 | | 3. KW | U. m | 12.10 | ĸm | 7.52 | mı | 325.06 | D.T.V. LLC |
| WOAV-LD | 39 | LD | LIC | ATLANTIC | CITY | | NJ | US | BLDTL- | -20100113ADM |
| | | | 15. kW | 0. m | 35.95 | km | 22.34 | mi | 131.55° | -20100113ADM ASIAVISION, |
| INC. | | | | | | | | | | |
| WWDD-LP | | | LIC | WILMINGTO |)N | | DE | US | BLTT- | -19931117JC WORD OF GOD |
| - FELLOWSHI | | | 10.3 kW | 0. m | 31.20 | km | 19.39 | mi | 248.76 | WORD OF GOD |
| FELLOWSHI | P, INC | | | | | | | | | |
| WNAI-LP | | | LIC | SPRINGVII | LE | | NJ | US | BLTTL- | -20041117ACS MARCIA COHEN |
| _ | 19586 | | 140. kW | 0. m | 12.34 | km | 7.67 | mi | 326.24° | MARCIA COHEN |
| | | | | | | | | | | |
| M.1.XF1.A | 42 51560 | D.T. | LIC 260. kW | PHILADELE | 12 24 | lem | PA 7 67 | US mi | BLCDT- | -20090615AAE |
| TELEVISIO | | | | 343. III | 12.51 | VIII | 7.07 | шт | 343.19 | FOX |
| 122271313 | | 101.0, | | | | | | | | |
| WMCN-TV | | | LIC | ATLANTIC | CITY | | NJ | US | BLCDT- | -20060707ACS LENFEST |
| | 9739 | | 200. kW | 212. m | 36.28 | km | 22.54 | mi | 132.67° | LENFEST |
| BROADCAST | ING, L | LC | | | | | | | | |
| WPSJ-LD | 51 | LD | LIC | HAMMONTON | J | | NJ | US | BLDTL- | -20100706AKA |
| - | | | | 0. m | | | 22.54 | mi | 132.67° | ENGLE |
| BROADCAST | ING | | | | | | | | | |
| MONIT | 67 | ЪШ | T T.C. | DIIII ADDI I | NTT 78 | | D.7 | TTO | DI CIDIII | 200401127GB |
| WCAU | 0/ _63153 | DI | 11C | 277 m | 12 34 | km | 7 67 | u5 mi | 326 240 BPCDI- | -20040112ACE NBC TELEMUNDO |
| LICENSE, | LLC | | 500. KW | 377. 111 | 12.51 | 12111 | 7.07 | | 520.21 | NDC TEEENONDO |
| • | | | | | | | | | | |
| | | | RAI | LTIMORE | MARY | T.A | ND | | | |
| | | | DI | | , 1717 11 1 | | (1) | | | |
| WM.TF-T.D | 16 | 7. т <u>ч</u> | K LIC | тОМСС | NC | | | | MD IIG | BLTTL- |
| 20001204 | | | 67462 | 10,400 | 1.22 1 | κW | 0.1 | m | 11.69 | km 7.27 |
| mi 1.8 | | | 0,102 | | | | · . | | | · · · · · · · · · · · · · · · · · · · |
| _,, | = | | | | | | | | | |
| WMJF-LP | | | | TOWSON | | | MD | US | BLTTA- | -20050909ADB |
| - | 67462 | | 3.5 kW | 0. m | 11.69 | km | 7.27 | mi | 1.87° | TOWSON |

MD US BLEDT-20090330AEX

WMPB 29 DT LIC BALTIMORE MD US BLEDT-200903307 - 65944 42.6 kW 309. m 22.60 km 14.04 mi 320.48° MARYLAND

PUBLIC BROADCASTING COMMISSION

| WRZB-LP | 31 - | TX | LIC | ANNAPOLIS | | MD US | BLTTL-20070907AFY 171.39° DC |
|----------------|--------------------------|-----------|---------|---------------|-------------|------------------|--|
| _ | 56826 | | 67.6 k | √ 0. m | 34.09 km | 21.18 mi | 171.39° DC |
| BROADCAST | ING, IN | IC. | | | | | |
| WJZ-TV | 38 | DT | LIC | BALTIMORE | | MD US | BLCDT-20050128AKU |
| _ | 25455 | | 1000. k | √ 312. m | 5.91 km | 3.67 mi | 326.13° CBS |
| CORPORATI | | | | | | | |
| | 2.0 | DV | T T C | | | MD IIG | DVI CDE 20070117777 |
| - WJ Z - TV | _ 38 25455 | DX | 306 ki | M 283 m | 5 91 km | MD US 3 67 mi | BXLCDT-20070117AAA 326.13° CBS |
| CORPORATI | ON | | 300. 11 | 203. 111 | J. J. 11111 | 3.07 mi | 320.13 |
| | | | | | | | |
| WMAR-TV | 38 | DT | LIC | BALTIMORE | | MD US | BLCDT-20090619ACA 326.13° SCRIPPS |
| - MEDIA, IN | <u>59442</u> | | 1000. k | √ 312. m | 5.91 km | 3.67 mi | 326.13° SCRIPPS |
| MEDIA, IN | C. | | | | | | |
| WNUV | 40 | DT | LIC | BALTIMORE | | MD US | BLCDT-20051011A0I |
| - | 7933 | | 845. k | √ 372.8 m | 5.99 km | 3.72 mi | 327.71° BALTIMORE |
| (WNUV-TV) | LICENS | SEE, INC. | | | | | |
| MIITO | <i>1</i> 1 | רות | T T C | DAITTMODE | | MD IIC | DI CDT 20000E2033D |
| _ MO1P | _ 41 60552 | DI | 200. k | √ 308. m | 12.78 km | 7.94 mi | BLCDT-20080528AAR 268.52° FOX |
| TELEVISIO | N STATI | ONS, INC | | | | | |
| | | | | | | | |
| WMPT | 42 | DT | LIC | ANNAPOLIS | 21 15 1 | MD US | BLEDT-20030903ABC 179.47° MARYLAND |
| - PUBLIC BR | 05942 0adcast | TNG COMM | TSSTON | W 289. M | 31.15 KM | 19.35 M1 | 1/9.4/° MARYLAND |
| FODDIC DR | OADCASI | ING COM | IDDION | | | | |
| W45DN-D | 45 | LD | LIC | WASHINGTON | ī | DC US | BLDTL-20110201ACL |
| | 125165 | <u> </u> | 15. k | √ 0. m | 42.50 km | 26.41 mi | 175.56° EICB-TV EAST, |
| LLC | | | | | | | |
| WIAV-LP | 58 + | TX | LIC | WASHINGTON | ſ | DC US | BLTTL-19940825IK |
| _ | 2962 | | 35. k | √ 0. m | 40.44 km | 25.13 mi | 214.77° ASIAVISION, |
| INC. | | | | | | | |
| MC3DO | <i>c</i> 2 . | шх | T T.C. | | | MD IIG | DI IIII 1006102473 |
| _ M03BO | _ 63 + 21700 | IX | 6 92 ki | M U m | 0 23 km | MD US 0 14 mi | BLTTL-19961024JA 227.30° INFORMATION |
| SUPER STA | TION, L | .L.C. | 0.52 11 | | 0.23 1111 | 0.111 | |
| | | | | | | | |
| WQAW-LP | _ 69 + | TX | LIC | LAKE SHORE | 45 45 1 | MD US | BLTTL-20070302ABL 139.56° UNA VEZ MAS |
| - LAKE SHOR | 131071 T T T C E N | ICE IIC | 39.8 K | V 0. m | 47.17 km | 29.31 mi | 139.56° UNA VEZ MAS |
| DAKE SHOK | E LICEN | DE, LLC | | | | | |
| | | | | WASHING | TON DC | | |
| | | | | MULICAN | JION DC | | |
| WFDC-DT | 15 | ידים | TITC | ARLING | TON | | VA US BLCDT- |
| 20070215. | | | | | | 173. m | 7.86 km 4.88 |
| mi 307.0 | - | | | | | - · | |
| | | | | | | | |
| WDDN-LD | | LD | | WASHINGTON | | | BLDTL-20110215ACJ |
| - FELLOWSHI | 167016 | | 10. k | √ 0. m | 12.12 km | 7.53 mi | 339.98° WORD OF GOD |
| T. ETTOMOUT | F, INC. | | | | | | |

| WDDN-LP | _ 23 - | TX | | LIC 150 | ЬW | WASHINGTON | 12 12 | km | DC 7 53 | US mi | BLTTL- | -20080327AAI WORD OF GOD |
|----------------|-------------|-------|--------|------------|-------|-------------------|-------|-------|------------|----------|-----------|-------------------------------|
| FELLOWSHI | P, INC. | | | | | | | | | | | |
| WNVC | 24 | DT | | LIC | | FAIRFAX | | | VA | US | BLEDT- | -20090612ACS COMMONWEALTH |
| _ | 9999 | | | 160. | kW | 221.1 m | 18.76 | km | 11.66 | mi | 262.19° | COMMONWEALTH |
| PUBLIC BR | OADCAST | ING | CORPO | ORATIO | N | | | | | | | |
| | | | | | | | | | | | | |
| WZDC-CA | 25 | CA | | LIC | | WASHINGTON | | | DC | US | BLTTL- | -20070309ADR ONDA CAPITAL, |
| _ | 50347 | | | 29. | kW | 0. m | 7.86 | km | 4.88 | mi | 306.94° | ONDA CAPITAL, |
| INC. | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| WETA-TV | 27 | DT | | LIC | | WASHINGTON | | | DC | US | BLEDT- | -20070727ACJ GREATER |
| | 65670 | | | 90. | kW | 254. m | 8.47 | km | 5.26 | mi | 313.90° | GREATER |
| WASHINGTO: | N EDUCA | TION | IAL TI | ELECOM | MUN: | ICATIONS | | | | | | |
| | 0.0 | | | | | | | | | | | |
| MF.D.T. | _ 28 | D.I. | | LIC | | FREDERICK | 40.06 | , | MD | US | BLEDT- | -20090330AFA MARYLAND |
| | | | | | | 158. m | 48.06 | km | 29.86 | mı | 327.130 | MARYLAND |
| PUBLIC BR | OADCAS'I' | ING | COMM. | ISSION | | | | | | | | |
| | 2.0 | ъ. | | | | GOT DITETAL | | | | *** | D | 0000100077 |
| MNA.T. | 30 | D.I. | | LIC | 1 | GOLDVEIN | 45 00 | , | VA | US. | BLEDT- | -20031230AAR COMMONWEALTH |
| | | | | | | 229. m | 47.83 | km | 29.72 | mı | 231.41 | COMMONWEALTH |
| PUBLIC BR | OADCAS'I' | ING | CORPO | ORA'I'1OI | N | | | | | | | |
| | 2.1 | | | | | 11717 DOT TO | | | 100 | *** | D.T | 0000000000 |
| MKZB-LP | 31 - | TX | | LIC | 1 | ANNAPOLIS | 40 85 | , | MD | US. | Br.I.I.r. | -20070907AFY |
| - | 56826 | ~ | - | 67.6 | KW | 0. m | 40.75 | km | 25.32 | mı | 75.70 | DC |
| BROADCAST | ING, IN | C. | | | | | | | | | | |
| THE PARTY | 2.2 | ъ | | | | LIA CILITATORIONI | | | DC | TT.C | DIDDE | 20071010777 |
| MHO.LI.A | _ 33 | D.I. | | LIC | 1-1-7 | WASHINGTON | 0 47 | 1 | DC. | US | BLEDT- | -20071018AIJ HOWARD |
| - UNIVERSIT | <u> </u> | | _ | 100. | KW | 254. m | 8.4/ | Km | 5.26 | mı | 313.90 | HOWARD |
| UNIVERSIT | Y | | | | | | | | | | | |
| WTTC | 26 | חת | | TTC | | WACHTNOTON | | | DC | TTC | DI CDT | 10001012770 |
| WIIG | _ 30 | DΙ | | 1000 | 1-1-7 | WASHINGION | 0 12 | 1rm | E 67 | m: | 21E E00 | -19991013AAB FOX |
| TELEVISIO | AT CONTROL | ONIC | TNO | 1000. | ĸw | 201. III | 9.13 | KIII | 5.07 | шт | 313.30 | FUX |
| 1ELEV1510. | N SIAII | ONS, | TINC | • | | | | | | | | |
| מיזיזזא | <i>1</i> 1 | рπ | | TTC | | DAITTMODE | | | MD | TTC | סו מחיים | -20080528AAR |
| WOID | 60552 | DI | | 200 | l-W | 308. m | 48 34 | km | 30 04 | mi | 26 250 | FOY |
| TELEVISIO | | | | | 17.44 | 300. 111 | 10.51 | 17111 | 30.01 | шт | 20.25 | rox |
| TELEVIDIO. | N DIAIL | OIND, | TIVE | • | | | | | | | | |
| WMPT | 42 | DΤ | | T.T.C | | ANNAPOLTS | | | MD | IIS | BLEDT- | -20030903ABC |
| - WHIL I | 65942 | בי | | 150 | kW | 289. m | 36 85 | km | 22 90 | mi | 69 999 | MARVI.AND |
| PUBLIC BR | | | | | | 2001 | 30.03 | | 22.70 | | 05.55 | THECTELLIA |
| TODLIC DR | 0110 0110 1 | 1110 | 001111 | 1001011 | | | | | | | | |
| WPXW-TV | 43 | DT | | LTC | | MANASSAS | | | VA | US | BLCDT- | -20010425ABG |
| _ | 74091 | | | | | 190. m | | km | | | - | |
| WASHINGTO | | | INC. | | | | | | | | | |
| | | | | | | | | | | | | |
| W45DN-D | 45 | LD | | LIC | | WASHINGTON | | | DC | US | BLDTL- | -20110201ACL |
| _ | 125165 | | | | | | | km | | | | EICB-TV EAST, |
| LLC | | | - | • | | | | | | - | | |
| - | | | | | | | | | | | | |
| WMDO-CA | 47 | CA | | LIC | | WASHINGTON | | | DC | US | BLTTA- | -20080428AAQ |
| _ | 38437 | | | | | 0. m | | km | | | | ENTRAVISION |
| HOLDINGS, | LLC | | | | | | | | | | | |
| | | | | | | | | | | | | |

KHANNA & GUILL, Inc. - Consulting Engineers

| WRC-TV | 48 | DT | LIC | WASHINGTON | | DC US | BLCDT-20000216AAT |
|-----------|----------|------|---------------|------------|----------|---------|-----------------------|
| _ | 47904 | | 813. kV | 7 242. m | 7.86 km | 4.88 mi | 307.02° NBC TELEMUNDO |
| LICENSE, | LLC | | | | | | |
| | | | | | | | |
| WWTD-LP | 49 Z | TX | LIC | WASHINGTON | | DC US | BLTTL-20060711ABI |
| _ | 56825 | | 150. kv | 0. m | 7.86 km | 4.88 mi | 307.02° DC |
| BROADCAS' | TING, IN | IC. | | | | | |
| | | | | | | | |
| WDCW | 51 | DT | LIC | WASHINGTON | | DC US | BLCDT-20030221AAG |
| _ | 30576 | | 125. kW | 7 252.5 m | 7.34 km | 4.56 mi | 348.13° WDCW |
| BROADCAS' | ring, in | IC., | DEBTOR-IN-POS | SSESSION | | | |
| | | | | | | | |
| WIAV-LP | 58 + | TX | LIC | WASHINGTON | | DC US | BLTTL-19940825IK |
| _ | 2962 | | 35. kv | 7 0. m | 15.33 km | | |